

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A modulation device comprising:

a modulation unit configured to modulate data in a hierarchical manner using multiple types of modulation techniques and to produce hierarchically modulated data that includes signal states for the multiple types of modulation techniques, such that a portion of a bit sequence which represents constellation points in a constellation plane in accordance with a first modulation technique of the modulation techniques is identical with a bit sequence which represents constellation points in a constellation plane in accordance with a second modulation technique of the modulation techniques; and

a transmission unit configured to transmit the hierarchically modulated data.

Claim 2 (Previously Presented): The modulation device according to claim 1, further comprising:

a sampling pattern generating unit configured to generate a sampling pattern for each of the multiple types of modulation techniques, the sampling pattern is a constellation pattern in a phase plane defining a sampling space for quantizing said data in accordance with each of said modulation techniques, wherein the modulation unit modulates said data in the hierarchical manner using a digital signal sampled based on the sampling pattern.

Claim 3 (Original): The modulation device according to claim 2, wherein the sampling pattern defines the sampling space of a carrier used in one of multi-phase phase shift keying and multi-value quadrature amplitude modulation.

Claim 4 (Previously Presented): The modulation device according to claim 2, wherein the transmission unit is configured to transmit the sampling pattern, together with the hierarchically modulated data.

Claims 5-10 (Canceled).

Claim 11 (Currently Amended): A modulation method comprising:
modulating data in a hierarchical manner using multiple types of modulation techniques to produce hierarchical modulation data;
producing hierarchically modulated data that includes signal states for the multiple types of modulation techniques, such that a portion of a bit sequence which represents constellation points in a constellation plane in accordance with a first modulation technique of the modulation techniques is identical with a bit sequence which represents constellation points in a constellation plane in accordance with a second modulation technique of the modulation techniques; and
transmitting the hierarchical modulation data to a demodulator of a counterpart communication device.

Claim 12 (Previously Presented): The modulation method according to claim 11, further comprising:

generating a sampling pattern for each of the modulation techniques, the sampling pattern is a constellation pattern in a phase plane defining a sampling space for quantizing said data in accordance with each of said modulation techniques, wherein said data is modulated in a hierarchical manner using a digital signal sampled based on the sampling pattern.

Claim 13 (Original): The modulation method according to claim 12, wherein the sampling pattern defines the sampling space of a carrier used in one of multi-phase phase shift keying and multi-value quadrature amplitude modulation.

Claim 14 (Previously Presented): The modulation method according to claim 12, further comprising:

transmitting the sampling pattern together with the hierarchically modulated data.

Claim 15-20 (Canceled).